

Intensified Hyposensitization Is an Effective Treatment of Postorgasmic Illness Syndrome (POIS)



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ABSTRACT

Introduction: Postorgasmic illness syndrome (POIS) is an extremely rare urogenital disease which significantly and negatively impacts the functioning and sexual activity.

Aims: A 34-year-old male presented with POIS symptoms and confirmed the allergic component of the POIS. Intensified immunotherapy with autologous semen was recommended.

Methods: The treatment lasted 14 months and included 20 visits. Modified and intensified subcutaneous immunotherapy in both forearms significantly shortened the therapy and improved the outcome, with high-tolerance and no adverse effects or hyperactive responses.

Main Outcome Measure: Improvement in POIS symptoms through the use of intensified immunotherapy with autologous semen.

Results: The improvement was significant enough to allow for higher sexual activity, and gradual resumption of private and professional activity.

Conclusion: Intensified immunotherapy with autologous semen seems an effective and safe option for treating patients with suspected immune-allergenic POIS. To the best of our knowledge, this has been the first such intensive and effective allergen-specific immunotherapy of POIS. **Wrotynska-Barczynska J, Swat E, Berger A, et al. Intensified Hyposensitization Is an Effective Treatment of Postorgasmic Illness Syndrome (POIS). Sex Med 2022;10:100474.**

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Key Words: Postorgasmic Illness Syndrome; POIS; Intensified Immunotherapy; Immunotherapy With Autologous Semen

INTRODUCTION

Postorgasmic illness syndrome (POIS) is an extremely rare urogenital disease which significantly and negatively impacts the functioning and sexual activity of the affected males. POIS was first described in 2002 by Waldinger and Schweitzer.¹ The clinical manifestations include flu-like symptoms (fever, extreme fatigue, myalgia, burning eyes, nasal congestion, rhinitis), mood swings, irritability, decreased concentration, and memory and

attention deficits, which intensify during the first minutes to the first hours after ejaculation and resolve spontaneously within 7 days.¹ The symptoms interfere with the functioning of the patient as well as his family.

The literature differentiates between 2 types of POIS: primary, with symptoms appearing with the first ejaculations during the pubescence, and secondary, which becomes symptomatic later in life.^{1,2} The symptoms may be accompanied by ejaculation disorders, predominantly premature ejaculation.²

The prevalence of POIS remains largely underreported, mainly due to substantial knowledge deficits among both, the physicians and the affected patients. To the best of our knowledge, over 60 cases of POIS have been reported so far, and 127 patients reported POIS symptoms in an online survey.³

The following hypotheses on the pathogenesis of POIS have been suggested: autoimmune reaction to semen,² endogenous opioid reactions,⁴ cytokine hyperactivity,⁵ impaired neuroendocrine

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response,⁵ transient dysregulation of the autonomic nervous system, and testosterone deficiency.⁶ Despite troublesome, function-limiting symptoms, there are no recommendations or treatment standards for POIS. Attempts have been made to use alpha-blockers, antihistamines, SSRIs (selective serotonin reuptake inhibitors), benzodiazepines, non-steroidal anti-inflammatory drugs (diclofenac).⁷ A few reports describe the use of desensitization therapy with own semen,⁸ intralymphatic immunotherapy⁵ and hCG injections.⁶ Chronic pharmacotherapies in POIS constitute a significant burden, the treatment is only symptomatic, may be poorly tolerated and induce or intensify sexual dysfunctions.

CASE

A 34-year-old Caucasian male with primary POIS presented with the following symptoms: chills, low-grade fever, muscle pain, lacrimation, nasal congestion, and headache (approximately 30–60 minutes after the ejaculation), followed by memory and speech impairment, concentration deficit, irritability, and fatigue. Symptom peak was reported on first and second day since the onset of the disease. The symptoms continued for up to 7 days. The Patient reported no ejaculation or erection problems.

The symptoms resulted in emotional disturbances. Complete cessation of sexual activity or limiting sexual activity to non-working days were the only ways to avoid or control the symptoms. The decision to engage in sexual activity was always associated with the feelings of stress and inevitably of the symptom onset.

Before the Patient came to our clinic, he had neurological and psychiatric evaluations done to exclude other psychoneurological conditions.

At the first visit he was examined and evaluated according to our standard protocol with particular attention to neurological, psychiatric symptoms and concomitant sexual dysfunctions.

Patient had no known chronic diseases. Physical examination revealed no abnormalities, BMI normal. The patient had food allergy to wheat, milk, almonds, in an IgE-independent mechanism, with a mild course. Total serum IgE was 66 IU/ml (normal). Celiac disease was excluded (negative Endomysial antibodies and Tissue Transglutaminase antibodies). Patient reported 3 episodes of anaphylactic shock after wasp-sting.

Semen analyses were performed 3 times: before treatment, after 6 months and at the end of therapy. Each time results indicated normozoospermia according to WHO.⁹ The results were as follows: concentration: 54 mln/ml, 160 mln/ml, 147 ml/ml, progressive motility: 36%, 37%, 42%, normal morphology: 4%, 4%, 4%, pH-7.8, 8.0, 7.8, semen volume: 2.2 ml, 5.3 ml, 7.0 ml respectively).

The allergic component of the POIS symptoms was confirmed using skin tests with seminal fluid (negative result) and

semen (positive result) with histamine and saline (0.9% NaCl) as controls. Immunotherapy with autologous semen was recommended.

- Each visit included evaluation according to standard protocol for severity and duration of symptoms, duration and type of adverse reactions with physical examination and data collection,
- initial visits were scheduled every 2 weeks, followed by every 4 weeks after the first 10 months of treatment;
- thawed semen samples were diluted with 0.9% NaCl, with the initial concentration of 1:40 000.

The Skin Reaction Grading System was used to assess patient reaction to the intracutaneous skin test at 15 minutes (Negative = wheal and erythema <5 mm, 1+ = wheal 5–10 mm and erythema of 11–20 mm, 2+ = wheal and erythema of 21–30 mm, 3+ = erythema of 31–40 mm, 4+ = wheal >15 mm or erythema >40 mm).

Reaction to saline (0.9% NaCl) was used as control.

- Subcutaneous injections of gradually increasing concentrations of semen to the left forearm were used, as presented in [Table 1](#).
- After 7 months of therapy, 1:1 semen concentration was used.
- Antihistamines (desloratadine 5 mg 1 × 1-2 × 1, followed by fexofenadine 180 mg 1 × 1 tablets) were prescribed for the first 6 weeks of therapy to prevent hyperactive response to the allergenic agent.
- After 10 weeks, the immunotherapy was intensified and both forearms simultaneously were injected with the allergenic agent.
- The volume of the semen injection was increased from 0.05 ml to 0.1 ml at visit no. 13.

The treatment lasted 14 months and included 20 check-up visits. The first improvement – complete resolution of symptoms 4 days after ejaculation – was observed after 2 weeks from the beginning of therapy, followed by reports of decreasing number of complaints, as well as shorter duration and lower-intensity symptoms during the subsequent visits.

Flu-like symptoms resolved after 1 month of therapy. Headache and speech disturbance were the next symptoms to resolve, followed by asthenia, fatigue, and irritability, although the latter dissipated later and only to some extent. The effectiveness and lack of adverse effects allowed to intensify the treatment, increase the doses and the concentrations, even with skin reaction of 3+ and 4+.

After 14 months the Patient felt a significant improvement as most of the symptoms disappeared and those that remained lasted no more than 2 days. Although complete resolution of symptoms was not achieved, the effects of treatment allowed for greater sexual activity and a gradual resumption of personal and professional activities. The patient reported improved quality of life and satisfaction with the therapy.

The patient had given written informed consent for the case to be published.

Table 1. Presentation of semen concentration used during intracutaneous tests (with evaluation of skin reaction), semen concentration and volume used for subcutaneous injections at subsequent visits

Visit	Semen concentration intracutaneous injection	Skin reaction (Skin Reaction Grading System)	Semen volume (ml) subcutaneous injection - left forearm	Left forearm – subcutaneous injection: gradual increase of semen concentration	Semen volume (ml) subcutaneous injection - right forearm	Right forearm - subcutaneous injection: gradual increase of semenconcentration
1	1:40 000	1+				
2	1:40 000	1+	0,05	1:40 000		
3	1:10 000	1+	0,05	1:10 000		
4	1: 5 000	1+	0,05	1: 5 000		
5	1: 2 500	1+	0,05	1: 2 500		
6	1: 1 250 1: 625	1+	0,05	1: 625	0,05	1: 1 250
7	1: 312,5 * 1: 156,25	1+ 2+	0,05	1: 156,25	0,05	1: 312,5
8	1: 80 * 1: 40	1+ 2+	0,05	1: 40	0,05	1: 80
9	1: 20 * 1: 10	2+ 2+/3+	0,05	1: 20	0,05	1: 10
10	1: 5 * 1: 2,5	3+ 3+	0,05	1: 2,5	0,05	1: 5
11	1: 2,5 * 1: 2	3+ 3+	0,05	1: 2	0,05	1: 2,5
12	1: 2 * 1: 1	3+ 3+	0,05	1: 1	0,05	1: 2
13	1: 2	3+/4+	0,1	1: 1	0,05	1: 1
14	1:1	3+	0,1	1: 1	0,1	1: 1
15	1: 1	4+	0,1	1: 1	0,1	1: 1
16	1: 1	4+	0,1	1: 1	0,1	1: 1
17	1: 1	3+	0,1	1: 1	0,1	1: 1
18	1: 1	4+	0,1	1: 1	0,1	1: 1
19	1: 1	4+	0,1	1: 1	0,1	1: 1
20	1: 1	4+	0,1	1: 1	0,1	1: 1

*Before injecting increasing doses of allergen subcutaneously into both forearms, we performed intradermal tests to evaluate the reaction to 2 different allergen concentrations.

DISCUSSION

The pathogenesis of POIS remains to be fully elucidated and there is no consensus about the causal treatment or the diagnostic criteria. Intra- and sub-cutaneous tests, total and allergen specific IgE are sometimes recommended. Waldinger et al, reported positive results of autologous semen skin tests in 29 out of 33 patients with POIS but normal total IgE.² Jing et al, demonstrated positive results of skin tests in 1 patient with POIS but also in 3 asymptomatic patients. No semen specific IgE was detected, total IgE was elevated.⁴ Depreux et al, reported negative results of the semen skin tests, with normal IgE and no specific IgE in a patient with POIS and history of allergic response.¹⁰

In the case of our patient, history and skin test results were indicative of allergy-based POIS symptoms. As the patient met the criteria and was deemed eligible, immunotherapy was initiated.

Immunotherapy lowers the body's immune response to the allergenic agent by repeated, controlled, and gradually increasing exposition.

Waldinger et al, have been the only authors to describe the subcutaneous allergen-specific immune therapy in 2 patients with POIS in 2011.⁸ The therapy protocol presented by these authors was less intensive than in the case of our patient: the concentration of the injected semen was decreased with skin reactions of >3+ and increased with skin reaction of <2+. The maximum semen concentration was 1:3, injected only to 1 forearm. The therapy duration was 31 months.⁸ The literature offers 1 report of a successful intralymphatic immunotherapy - a more invasive method which requires imaging tests.⁵

In our study, modified and intensified subcutaneous immunotherapy in both forearms significantly shortened the therapy and improved the outcome, with high-tolerance, no adverse

effects or hyperactive responses. To the best of our knowledge, this has been the first such intensive and effective allergen-specific immunotherapy of POIS.

Intensified immunotherapy with autologous semen seems an effective and safe option for treating patients with suspected immune-allergenic POIS. Larger sample-size trials may confirm the efficacy of such therapy.

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STATEMENT OF AUTHORSHIP

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